

ESL student perspectives on university classroom testing practices

Annela Teemant¹

Abstract: ESL students struggle to represent accurately on tests what they know. Understanding what constitutes equitable testing practices in university settings for ESL students poses a significant challenge to educators. This study reports on the content analysis of semi-structured interview data obtained from 13 university-level ESL students on their opinions, concerns, strategies, and preferences in testing. ESL students provide evidence that language proficiency, test anxiety, and preferences for particular test formats, such as multiple-choice over essay questions, affect their ability to demonstrate content knowledge. Students describe context, culture, and seven language-related problems in testing, and show awareness of various test-taking strategies. The results suggest practical implications for making testing outcomes more equitable for ESL students.

Keywords: English as a second language, testing, higher education reform, international students, learner preferences

The number of English-as-a-Second-Language (ESL) students from international and immigrant backgrounds continue to grow rapidly and impact teaching and learning in colleges and universities (Erisman and Looney, 2007; Gray, Rolph, and Melamid, 1996; Institute of International Education, 2009; Steward, 1991; Walker, 2000). While all schools "are being required to respond to the challenge of . . . making schooling equal and equitable for all" (Grant, 1992, p. 1), one persistent area of concern is valid and equitable assessment (e.g., Ewell, 2004; Solano-Flores and Trumbull, 2003). Assessment practices, in particular, are a growing concern in higher education because of mounting pressure to create a "culture of evidence" that accounts for student learning (Shavelson, 2009, p. 1). Indeed, Ewell (2004, p. 2) argues that "assessment linked to accountability is being advanced . . . as a recipe for 'fixing' education at all levels."

It is in this context that I sought to understand the assessment challenges faced by ESL university students—those I teach and those I advocate for—in content-area classes. It is widely acknowledged that ESL students struggle to represent accurately what they know on tests. In the act of test taking, language knowledge and content knowledge merge and are often confounded. According to LaCelle-Peterson and Rivera (1994, p. 69), current testing practices fail to "capture" what ESL students really know in terms of content knowledge. This gap between students' actual knowledge and their test performance is often ignored or unrecognized by university faculty. Schneider and Shulman (cited in Shavelson, 2007, p. viii), however, argue that university faculty must "know what to make of" and "how to act on" valid evidence of student learning. The purpose of this qualitative study is to a) make visible ESL students' perspectives on classroom testing practices; and b) to highlight practical implications for how university faculty can address ESL students' testing concerns.

¹ Associate Professor, School of Education, Indiana University—IUPUI, 902 West New York Street, ES 3121, Indianapolis, IN 46202, ateemant@iupui.edu, telephone: 317-274-1228

I. Relevant Literature.

Research and theory from the fields of second language acquisition (SLA), psychology, and psychometrics are important to understanding ESL students' perspective on testing. From the SLA literature, Bernhardt, Destino, Kamil, and Rodriguez-Muñoz (1995) believe that ESL students "are in double jeopardy when confronted with assessment of any type" because they are "forced into demonstrating knowledge in a language over which they have only partial ... control" (p. 6). Short (1993) explains this complexity as follows:

Because language and content are intricately intertwined, it is difficult to isolate one feature from the other in the assessment process. Thus, teachers may not be sure whether a student is simply unable to demonstrate knowledge because of a language barrier or whether, indeed, the student does not know the content material being assessed. Yet a distinction needs to be drawn, especially if a student is not succeeding in a course. (p. 629)

Clearly, language proficiency is one factor that influences academic success, but SLA research also shows that it is only one factor among many influencing student performance on classroom exams (e.g., Graham, 1987).

Research in psychology suggests another factor that influences test performance—test anxiety: a situation-specific form of general anxiety experienced in association with examinations (e.g., Sapp, 1993). Research has shown that test anxiety can be both facilitating or debilitating (Alpert and Haber, 1960); however, Spielberger and Vagg (1995) have identified worry (i.e., negative thinking and self-doubts regarding testing outcomes) as being strongly associated with poor test performance, since worry diverts attention from the test-taking task. Test anxiety affects minority students to a greater degree than it does majority students (e.g., Phillips, Pitcher, Worsham, and Miller, 1980) due to issues of language, culture, and familiarity with test formats and characteristics (e.g., Anderson and Saucer, 1995; Solano-Flores and Trumbull, 2003; Scott, 1986). Consequently, ESL students who are ill-prepared for a testing situation may reduce their "access to educational and occupational opportunities" by testing poorly (Spielberger and Vagg, 1995, p. xiii).

A third factor influencing ESL students' test performance is test format. Lemke (1990, p. 80) charges that present testing practices in the U.S. undeniably "favor" students from middle-class, standard-dialect, individualistic, and Protestant backgrounds. According to Alexander and Parsons (1991), current testing practices continue to be a "highly ethnocentric" phenomenon, which "is particularly distant to the experiences and goals of minority populations" (p. 245). Salamonson, Everett, Koch, Andrew, and Davidson (2008) have exploratory evidence that the higher the degree of English-language acculturation predicts ESL students' academic performance. Solano-Flores and Trumbull (2003, p. 3) argue such concerns for "valid and equitable assessment" of students from "non-mainstream backgrounds are longstanding."

Because much of the literature in educational measurement and research addresses the reliability and validity of various examinations, the opinions, concerns, and preferences of test-takers themselves have often been ignored (Gellman and Berkowitz, 1993; Nield and Wintre, 1986; Zeidner, 1987). Although research with native English speakers demonstrates that test-takers have clear preferences in testing, ESL students' preferences in testing have not been investigated in content-area classes.

ESL students pose a significant challenge to educators, who must grapple with understanding what constitutes equitable testing practices in university or college settings for language-diverse student populations. This study sets out to document the experience of ESL students in testing when they are required to express content knowledge in a second language. The following research question guides this qualitative investigation of university-level classroom testing: What are ESL students' opinions, concerns, strategies, and preferences related to being tested in content-area courses?

II. Methodology.

The present study theoretically adheres to qualitative methods. Qualitative research relies on non-numerical data to describe and understand human experience (Glesne and Peshkin, 1992). Qualitative inquiry relies on descriptions, processes, natural settings, the emic construction of personal meaning, data collection via human researchers, and inductive theory building (Creswell, 1994; Guba and Lincoln, 1989). In this study, the use of semi-structured interviewing techniques with open-ended questions allowed access to a wide variety of information, with the possibility of follow-up and clarification (Marshall and Rossman, 1995), and collection of "comparable data across subjects" (Bogdan and Biklen, 1992, p. 97).

A. Subjects.

The 13 subjects selected for participation in the semi-structured interviews were ESL students enrolled in four-year university programs. Subjects were selected on the purposeful criterion of typicality. Interviews were between 35 and 50 minutes, and interviews ended when no new information was obtained. Redundancy was the primary criterion for ending subject selection (Lincoln and Guba cited in Patton, 1990). Subjects (females=6; males=7) represented different language backgrounds (i.e., Belorussian, Russian, Portuguese, Spanish, Korean, Chinese, and Arabic), and various majors. Two of the thirteen subjects were graduate students. Subjects had lived in the U.S.A. between seven months and seventeen years and had been university students between one month and two-and-a-half years.

B. Interview Protocol.

The interviewing protocol developed for this study began with basic background information (i.e., country of origin, length of U.S. stay, university experience, and major), and then focused on open-ended questions about students' experience, concerns, and preferences regarding testing. Preferences in testing included focus on five test formats: true/false, multiple choice, short-answer/completion, restricted response (i.e., questions asking students to list, define, give reasons, etc.), and extended essays.

C. Data Analysis.

Data analysis entailed transcribing the tape-recorded interviews, checking transcriptions for accuracy, and conducting a content analysis of the interview data across subjects using *Hyperqual 2* (Version 1.2) software. Content analysis consists of descriptive data reduction, that is, identification, coding, and categorization of significant patterns of response across ESL

subjects (Patton, 1990). The semi-structured interview questions provided the analytical framework, focusing on testing experiences, perceived differences, strategies employed, testing preferences, language skills, and opinions on how professors could assist them. Coding categories emerged from student responses. For example, students responses may be coded as "testing differences," "vocabulary," or "strategy." Once coded, dominate patterns of response were synthesized under the broader categories of: a) problems in testing, b) testing preferences, and c) testing strategies. The limitations of the data collection procedures are recognized, in that time spent interviewing and building relationships with interviewees was limited (Glesne and Peshkin, 1992). The interview data have been preserved as an indication of authenticity (Guba and Lincoln, 1989).

III. Results.

The interview questions provide the structure for presenting the results of the content analysis; that is, three main issues are addressed: a) problems in testing, b) testing preferences, and c) testing strategies. These findings provide university faculty both test-taker and second-language perspectives on testing practices in university classrooms.

A. Problems in Testing.

ESL students were asked to respond to several questions focusing on problems in testing. For example, students were asked to describe their first experiences in testing, to note American and home-country differences in testing, and to identify the problems they encounter when taking tests at the university level. They were also asked whether they believed their grades on tests accurately reflected their content knowledge. From these questions, interviewed ESL students identified problems in testing related to context, culture, and language.

The Context. As a minority population in universities, the ESL students were aware that they compete with native English speakers for grades, and two-thirds of these students felt that their grades did not accurately reflect their content knowledge and ability. According to these ESL students, grading in university courses was an issue in which students and professors shared responsibility. For example, one student accepts that academic success depends on her own efforts: "We have to study harder ... twice as hard" as native speakers. Another student's test performance fluctuates and he feels it almost beyond his own control: "My life depends on midterms, homework due. I am absolutely unsure about myself right now. Sometimes I do good; sometimes I have to retake [a class] one more time. The first time I received a D, and then the second time I received B. I don't know."

Some ESL students, however, also perceived grading practices of professors as being unfair to them. For example, one student said poor grades were not "because we don't understand, or we don't study. We might spend twice as much time as others, but we didn't get a better grade as others." Another student described a lack of fairness in grading this way:

In physics we wrote a paper. He [the professor] didn't look exactly at the content. He just looked at vocabulary words, grammar, ... [but] you have to look at what's inside -- just not look at the outside. Maybe some people aren't good in it [i.e., writing]. They have the best content out of all American students, but they don't know how to write it ... I think that's not fair.

These ESL students also seemed to recognize the difficulty faculty face in meeting the differing needs of native and nonnative speakers in the same class. They neither expected professors to "talk in a special way for foreign people" or alter testing practices on their behalf. One student said, "I'm afraid [of tests] ... because it's not my language ... Teachers must take care that we are internationals ... I don't want a different test for native speakers and international students, but like simple questions, and simple answers."

Another student speaks candidly of the frustration she experiences when she is placed in the position of having to help her professors to work with ESL students:

I try to understand why some teacher will understand me better than the other. And then you will find that this teacher never have this kind of student before. And then, you mark yourself as 'Test Student Number One.' You've got to ... let him know what you are, what kind of problems you [have], and then he knows that he get result ... [Who]ever comes after [me], he knows how to handle it.

These interview excerpts reveal that in the U.S. university context, minority ESL students are in the uncomfortable position of competing with native speakers for grades. They also felt they were taught by faculty who are not prepared to work with or accommodate ESL students with unique learning and testing needs. These aspects of context are problematic and contribute to the disadvantage ESL students perceive themselves as having in some university classes.

The Testing Culture. Two-thirds of the ESL students interviewed felt that the U.S. system of testing differed from their home-country systems. These students appeared to have experienced a gradual shift to what one subject described as "American ways." Five characteristics typify the cultural differences in testing that ESL students perceived between U.S. and home-country testing systems.

First, tests are given more frequently in the U.S. than in the students' home countries. Multiple midterms and comprehensive finals seem to pressure ESL students: "I take a lot of tests for one subject, at least, three or four times a semester. That was quite a lot for me, and that is kind of a stress for me. That's why I don't like a lot of tests."

Second, students were surprised that they are expected on tests to express their personal opinions as well as to know facts. For example, one student said that in his home country, "It's more like you have to answer this because you read that ... [But in an architecture class] here you have to be yourself, and you have to [write] what you think."

Third, these ESL students felt U.S. professors were more caring than expected. A student was surprised when her professor permitted her to use a dictionary for her second music history test following poor spelling and vocabulary use on her first exam. She reacted to this adjustment by saying, "Professors ... thought about me, about my problems and they ... go to meet my problems, and to relief it. I got used to 'My problems are my problems. I have difficulties with English ... It's my difficulties.'" Another student said, "Here, the teacher more involved with students ... They explain everything." Another student observed that faculty "make sure everybody understand, ... then give you the test."

Fourth, several of these ESL students perceive the U.S. testing system as being easier than their home-country systems. The Russian, French, Taiwanese, and British (for an Arabic student) testing systems, for example, were each named as being more demanding than the U.S. system.

A Taiwanese student explained this difference in testing rigor as follows:

In Taiwan, they try to make things difficult because we are small. We don't have enough space for everybody to come to college, so they make everything hard ... to pick the best out of those people [to] go to colleges. [In the U.S.] we have a chance to come to college. We have a better education chance, and they try to make you really understand the courses ... I like it better here.

Several students also mentioned that grading in their home countries was more subjective than in the U.S. system. Students explained that in their home countries grades are based on one final exam, often in the form of an oral exam, during which a professor can decide on grades subjectively: "If he likes you, it's A, or A-, or B. If he doesn't like you, it can be a B-."

Fifth, the U.S. system has alternatives in testing formats that are unfamiliar to ESL students. While some students were comfortable with multiple-choice and essay formats, other students were not. Test format expectations clearly depended on each student's previous home-country experience; however, the use of a testing center to administer tests, class presentations as tests, or the idea of take-home tests was each mentioned as a unique testing alternative in the U.S. system.

Concerning take-home tests, one student seemed surprised at the trust professors had in their students: "Such a trust to students ... You are alone in the room. They trust you to use nothing. I tried to be honest. I used only my own brain, but it is just impossible in every other university I was studying [in]." According to another student, the expectation of honesty takes effort, because in his school culture, "Cheating ... is kind of acceptable."

For ESL students, the differences in testing practices that characterize the U.S. culture of testing are both positive and negative. While they struggle with the number, format, and alternatives in testing practices, they also seem to perceive the system as easier for them when compared to their home-country alternatives.

The Language. ESL students also describe language-related problems that interfere in the process and products of testing. Various students mentioned individual problems in testing, such as finding time to study with work responsibilities, not using adequate preparation strategies, or drawing a blank when confronted with a test. More significantly, however, these ESL students' responses revealed language problems in testing that were common to the majority of students interviewed. In order of salience in the data, seven language-related problems were identified: a) vocabulary, b) understanding test questions, c) memorizing in English, d) knowing how to write, e) time constraints, f) "trapped" content knowledge, and g) keeping pace in the classroom. Each of these issues is discussed below.

First, the most frequently identified problem in testing for ESL students is a limited receptive and productive English vocabulary. From the perspective of these ESL students, their failure in testing situations can be attributed, in many cases, to one word, or the one word they did not know. Students said they felt lost in a flood of terminology--"big words"--in such classes as accounting, anthropology, geography, or computer programming. One student said, "The teacher was like speaking another language [not English]. What is he saying? I was too lost, even though I read before the lesson in the book."

When ESL students discussed their vocabulary knowledge and its connection to testing, they spoke in terms of lacks, limitations, and need for improvement. One student said, "My vocabulary is too short. I need to improve it. I need to write the same word in different way,"

(i.e., use synonyms). Another student said, “Sometimes I can't find the right word I'm thinking.” Another student worried that in writing test answers, “If you don't know some word, you have to change the whole sentence because it doesn't make sense. You lose a lot of time.”

Several student comments demonstrated that representing content knowledge on tests is hampered by not recognizing or being able to produce one important word. For example, one student described this one-word phenomenon as follows: “Prevail--I don't know what prevail is, still don't know. That was in my midterm. I know the answer ... but they word them out like college words, ... so I don't know if I know the answer.” Another student reinforced this idea that a single vocabulary item can stop ESL students from even attempting to demonstrate their content knowledge:

I don't have this big vocabulary, so I'm limited to ... certain amount of words I know. If there comes a question with maybe a word that means the same thing, but I don't know that word, even when I actually know the answer ... I just can't answer the question because I don't know what that word means.

These students seem to concur with this student's sentiments: “If I don't know [that word], maybe I'm going to answer something wrong.” Another student highlighted knowing a word linguistically and from a sociocultural perspective as a potential challenge. For example, in a linguistics class, one student explained how the entire lecture hinged on understanding what Black English was. From her perspective, “It seems to me that everybody know, but I don't. And it was essential because if I know I could understand what was going on.”

The second language-related problem ESL students have in testing situations is understanding the questions they are asked on tests. One student explains, “Will I understand what the professor is asking? Most of the time, that's the problem I have.”

Several students mentioned that they often misunderstand test questions because of the professor's wording. These ESL students said they reread questions, analyze questions word by word, and struggle with difficult vocabulary in order to understand test questions. One student explained that in classes such as history or chemistry, she specifically tries to remember from lectures and readings “how they ask those questions.”

A third problem in testing for ESL students is the amount of memorization required for most tests. Memorizing content for tests is complicated by the fact that they are memorizing in their second language. One student said, “It is hard [to] memorize in Portuguese, imagine in English.” Other students described memorizing content-area information as a “double effort” or “harder” because it is “my second language.” One student even suggested that her ability to memorize is different in her two languages: “In Korea, I think I really good at memorizing, and some how in U.S.A., I forget how to memorize.”

A fourth language problem is expressing knowledge in writing, in an appropriate western style. One student said she used to just speak “Russian by English words,” and she has had to struggle to learn to use “English rules in English structures” when writing English. ESL students also seem to worry that some professors unfairly want them to write like native English speakers: “They can't expect you have perfect grammar.”

Time limits in testing are the fifth identified language problem. Specifically, these students felt that time restraints led to both language and content errors in testing. Students pointed out that in writing on tests, they “have to think, to organize, and to check grammar,” and that their ideas often come to them first in their native language and need to be rephrased in

English. These language-related processes require time. One student's comment typifies this ESL language concern:

Time is sometimes a factor in my performance on an exam. Honestly, it takes me a little bit more time to read and actually understand clearly ... Most of the time, I know the answer, [but] I do something wrong because I did it really quick ... Sometimes I would like to have more time.

Sixth, ESL students described having content knowledge "trapped" in their native language in such a way that they could not adequately access that knowledge to demonstrate mastery in test situations. This phenomenon is described as knowing some content or word in their native language, but not knowing it in English. A Korean student registered for an anthropology class, when he first arrived to study in the U.S., because he had already taken a similar anthropology class in his native language. He had hoped that this background knowledge would give him an advantage; nevertheless, he reported, "I know the answer of the question, but the problem is I cannot describe in English."

Finally, the seventh problem mentioned frequently by ESL students was their difficulty in keeping pace, from a language perspective, with the teacher in the classroom. This problem was described as becoming accustomed to American expressions and accents, taking notes and listening at the same time, or producing university-level work. One student described her professor's pace as follows: "One class about 200 people ... He doesn't know who has the questions or not. He write fast. Talk fast. [You] write down everything, and you have to go home and figure out the rest of it."

When asked what teaching practices their professors could use that would help them perform better on tests, these ESL students had in-class and test preparation requests. Students felt faculty helped ESL students by speaking more deliberately, explaining difficult concepts twice, providing study guides, previewing tests, and meeting with struggling students. When preparing tests, ESL students hoped faculty would write clearly, use simple vocabulary, plan more time for tests, allow dictionary use, and answer students' questions during tests. These accommodations would help diminish the language-related problems ESL students had in testing. One student said, "The same test form, but use different words. Try to make the question clear, same answers, same question to make people like us really understand the questions ... Take out all those big words."

These ESL students were also asked to reflect on which language skill—reading, writing, listening, speaking, grammar, vocabulary, or pronunciation—was most important in helping them show their content knowledge on tests. They felt that improving their reading skills would be most helpful to their academic success. They also felt that improving writing skills, followed in turn by improving vocabulary and grammar, would be important for testing situations. Students felt that ESL programs, charged with preparing students for the regular university classroom, should focus more on such topics as understanding university expectations, writing timed essay responses, increasing the rigor of reading components of ESL classes, and developing study skills (e.g., note-taking and memorization strategies).

In summary, ESL students experience problems in testing on the university level from context, culture, and language perspectives. Specifically, these seven language-related problems in testing are unique to second-language students and jeopardize their ability to demonstrate content-area knowledge on tests.

B. Testing Preferences.

ESL students were asked about their general testing preferences in content-area courses. They were also specifically asked about five format alternatives: true/false, multiple choice, short answer/completion, restricted response, and essay.

ESL students' general testing preferences were first a preference for oral tests, because that was what they were accustomed to in their home country. Second, students felt that their format preferences would depend on the subject matter of the course. In physics or math, one student preferred multiple-choice tests because "you can take out [answers] that don't make sense, ... so that helps you out." Another student felt that it is better to be tested "chapter by chapter" in a math class. For another student, multiple-choice formats were more appropriate for "technical" material, such as chemistry elements, and essays would be more suitable for "theory" courses, such as political science.

When asked about their specific test format preferences (e.g., true/false, multiple choice, etc.), ESL students most often preferred a multiple-choice test format. Multiple-choice tests were the easiest for them to do well on. Essay exams and short answer/completion test formats were considered the most difficult. When asked if these format preferences would be the same in both their native and second languages, these students responded either that all formats would be easier in their native languages or their preferences would be the same for both languages.

When asked why certain test formats were or were not preferred, these students had very little to say about true/false, or short-answer/completion test formats. Generally, they reported that true/false items were confusing, tricky, or picky but provided a good chance of getting a correct answer. Short-answer/completion items were disliked because the format required memorizing a specific word. No positive comments were offered about short-answer/completion questions.

Multiple-choice items were preferred by these ESL students and generated commentary from 12 of the 13 students. Although considered the easiest format, students offered strong criticisms of the format as well. For example, students felt that multiple-choice questions were tricky, ambiguous, and difficult to understand when time was limited. They also felt that some professors gave too many options to choose among. The main strength of multiple-choice items, according to these ESL students, is that the correct answer is in front of them. As one student said, "We have all answers. If I know materials, I can figure it out."

Most students felt positive about restricted-response test items, which require them to briefly list, define, or give reasons. While two students felt it was "difficult to explain something very short," other students felt that it was a good opportunity to give "simple definitions or simple answer[s]" or "gain a lot of points on test[s]," by at least writing something down.

Finally, ESL students were the most negative about essay-format tests. Most students echoed the sentiment of the following student regarding essay questions: "My native language is not English, so to write extended essay will be tough on me ... When you tell me to use the limit[ed] amount of words I have learned in English, and try to make a coherent academic essay, it will be quite tough." These students mentioned grammar, punctuation, syntax, vocabulary, the challenge of developing a topic, and difficulty in expressing their own opinions as some of the reasons they did not like essay questions on exams.

Overall, these ESL students showed strong preference for multiple-choice questions, which rely more on reading skills than writing skills. Restricted-response and essay items,

however, were still preferred over short-answer/completion items. From these students' feedback, it appears that they have strong opinions concerning which test formats help and which hinder their test performance in university classes. It also appears that a students' level of language proficiency as well as level of familiarity with testing formats mitigates ESL students' preferences.

C. Testing Strategies.

Students approach testing situations idiosyncratically. Strategies that work for one student may not fit with another student's study habits. Nevertheless, several of the ESL students interviewed appeared to relate to the following student's struggle in university classes:

It's hard to memorize for me. I can read this, and I can understand, but if you make me a question of this, I can't do it. I don't know how to explain it, but I can't take a test based on what I read ... I read like [I'm reading] a magazine, not like I need to study. Sometimes there are few words I can't understand. Is it important? And I don't know how to take notes. I'm just copying what the teacher [does] in the blackboard.

This student identified his lack of study skills, specifically academic reading, note-taking, and vocabulary skills, as obstacles to his academic success.

Students identified various test-preparation and test-taking strategies they used related to testing in university courses. The test-preparation strategies discussed reflect three components: a) principles that holistically guide students' study efforts; b) use of various resources; and c) specific study techniques. In terms of study principles, students seemed to recognize the need to adjust study skills to the demands of different classes:

Each class has a different format. One of the key components is the syllabus ... I read the syllabus carefully and prepare for the first test. After the first test, I know what will be there in the second exam or what kind it will be.

These ESL students also acknowledged that each class, subject-area, and department has a structure that needs to be mastered for academic success. For one student, these structures guide his study priorities:

If I go to business school, they're going to watch particular classes, especially math. So I'm going to put some pressure on me on math class. I'm not going to worry about American Heritage and English 115. I know at the same time that GPA is really important if I want to get scholarship or something.

In terms of resources, ESL students recognized professors, teaching assistants, syllabi, study guides, textbooks, and classmates as important sources of information. Connecting effectively with these resources is at times challenging for ESL students. One student who is orally fluent in English complained that:

Those teachers won't believe me when I say I have a problem: I can't understand them. My English TA once say, 'I don't think you [have] any problems. As long as you read

the books, you come to see me, you'll be okay.' I have problems understanding the literature. When I ask for help, you tell me I'll be fine. It's not the answer I'm looking for here.

Despite the challenges associated with getting the help they need, several ESL students noted that various people, teacher handouts, or offered resources help them sort through what content is important for a particular test.

These ESL students identified several test-taking strategies they had in common. For example, skipping difficult questions, reading questions carefully, guessing, asking for help, brainstorming, and using dictionaries typify more common strategies. Although students' comments revealed awareness of test-taking strategies, how effectively strategies are applied in content-area test situations by ESL students is unclear from this study.

IV. Discussion.

These data provide an insider's view of the problems, preferences, strategies, and preferred teacher practices associated with classroom testing for ESL students. Their responses demonstrate the importance of context, testing culture, and language in understanding testing from a second-language perspective; however, they also suggest that format, strategies, and faculty practices potentially impact ESL student performance in various test situations. The implications of these findings are addressed through a focus on issues of second-language acquisition, test anxiety, and testing.

A. Language Proficiency.

Two findings stand out regarding the role of language proficiency in testing. First, university faculty benefit from knowing that ESL students require more time than native English speakers to process, learn, and remember concepts from academic texts. ESL students describe their language-related problems in testing in terms of their academic language skills, or what Cummins (1980) calls *cognitive/academic language proficiency*. This distinction between conversational and academic language proficiency is well supported in the second-language literature (e.g., Cummins, 2000; Kinsella, 1992; Snow and Brinton, 1988). Conversational fluency, in highly contextualized everyday contexts, develops faster than more abstract academic language skills for ESL students (Cummins, 2000).

Cummins (1980) further argues that academic language abilities are interdependent in learners' first and second languages. Although these students have obtained a level of second-language proficiency that gained them university entrance, their comments reveal that they do not assess themselves to be adequately proficient in academic language use—below a threshold of adequate academic language proficiency—to demonstrate accurately or consistently their content knowledge on tests.

Second, these students identified reading and writing as the language skills that would help them most in testing; however, they spoke most frequently about how their limited vocabulary—a sub-skill in the language learning process—jeopardized their test performance. Through their examples and elaboration, these ESL students demonstrated that vocabulary knowledge is of great importance in testing. DeCapua and Wintergerst (2004) research supports this contention that both wording and poor word choice on questionnaires present a major

challenge to ESL students. Indeed, Leki and Carson (1994) also argue that vocabulary is key in academic achievement. If a student lacks the strategic competence to paraphrase, he or she may not be able to compensate for a limited vocabulary. This, of course, does not deny the role of vocabulary in learning to read, write, comprehend, or speak in the academic context. These findings do, however, lend support to Matthews' (1990) argument that the sub-skills of language proficiency not be awarded equal weight in the language proficiency equation. When comprehension is in question, using a wrong word or not knowing a word is more serious an error than using poor grammar (e.g., Bolinger, 1979).

Several practical implications emerge for reducing the language jeopardy in testing situations for ESL students. For example, faculty can include a note on ESL testing accommodations in their syllabi, including a willingness to meet with students, provide study guides, provide vocabulary lists for tests, allow dictionaries, or additional time for completing tests, especially when extended writing is required.

Faculty can also make a concerted effort to use familiar, high frequency words when writing test items rather than sophisticated, low frequency academic language. On tests, faculty should be willing to allow access to dictionaries when ESL students encounter unknown words, especially when those words merely impede comprehension of the question rather than reveal lack of content learning. Gaps in ESL students' vocabulary knowledge can be unpredictable. For example, a student should not be penalized for not knowing the word "initiated" in the following question: "Mitotic cell division is initiated in the _____. " It is entirely possible for a student to know how to "compare" mitosis and meiosis and for the same student to be confused by being asked to "contrast" processes. In grading, faculty should focus on the quality of ideas and content over issues of grammaticality. Attending to such accommodations demonstrates faculty willingness to share responsibility for mitigating language issues on tests of academic content. In an era of growing linguistic and cultural diversity on American campuses, such voluntary faculty accommodations for ESL students demonstrate greater responsibility and accountability (Ewell, 2004; Shavelson, 2007) for ESL students' learning outcomes.

B. Test Anxiety.

The ESL students interviewed provided anecdotal evidence of test anxiety. Their anxiety was evident when they described their cognitive processing being impeded by difficulties in memorizing, accessing content knowledge, or applying appropriate test-taking or metacognitive strategies. In addition, these students reacted emotionally to various test formats: Several students had aversions to one particular test format or another (e.g., multiple choice or essays). Student expectations in testing and strategy use were clearly culturally framed, as researchers like Scott (1986), Diaz-Guerrero (1976), and DeCapua and Wintergerst (2005) suggest.

These findings qualitatively corroborate what the psychology literature predicts concerning test anxiety for minority populations. Perceived poor performance, insecurity, and fear of negative evaluation—which were each expressed in these interviews—are evidence of test anxiety (Anderson and Sauser, 1995). Concerns raised related to language, culture, and testing preference are potential explanations for test anxiety among ESL students. Faculty can help alleviate some of this type of test anxiety by being more deliberate in their descriptions of classroom testing procedures and formats and by having written accommodation policies in syllabi. When faculty share responsibility for equitable testing outcomes, students benefit.

C. Testing Preferences.

The ESL students interviewed preferred multiple-choice test formats over true/false, short-answer/completion, restricted-response, and extended-essay formats. Multiple-choice, restricted-response, and extended-essay formats elicited strong opinions from ESL students.

These findings support previous descriptive work related to ESL students' preferences in testing. Qualitative studies by Leki and Carson (1994), Horowitz (1986), Kinsella (1992), and Leki (1995) describe writing as a problem when test items require language production, and time limits as a problem for objective test items. Knoch's and Elder's (2010, p. 72) findings also suggest that ESL students clearly prefer having longer time frames for writing extended responses/essays (i.e., 50 minutes compared to 30 minutes) even when the impact on the quality of writing is "negligible." A quantitative pilot study by Madsen and Murray (1984) suggests that ESL students prefer an objective test format.

The testing preferences of ESL students also appear to be similar to those of native speakers of English. Native speakers show preferences for restricted-response and essay items over multiple-choice formats on the criteria of "value, fairness, and validity in assessing content knowledge" (Zeidner, 1987, p. 357); however, they believe that multiple-choice tests are easier to do well on (e.g., Gellman and Berkowitz, 1993; In'nami and Koizumi, 2009). Although ESL learners have language, anxiety, and format obstacles to overcome in testing, it is uncertain if multiple-choice test formats create more or fewer problems in testing for ESL students than other format alternatives.

D. Conclusion.

As university faculty continue to teach growing numbers of linguistically diverse students, they will be required to measure their classroom practices, especially their testing practices, against the standard of equity. This study documents the common concerns, problems, and preferences ESL students have when demonstrating their content knowledge on tests. While every preference and perception of students cannot and should not be acted upon, the findings identify simple actions university faculty can take to acknowledge the complexity of representing learning in a second language for ESL students while removing simple sources of language or culture bias in assessment practices. There is a need for further research, both qualitative and quantitative, to clarify the degree of importance such factors as language proficiency, test anxiety, and format preferences play in ESL students' test performance. Although the results of this study must be interpreted cautiously, the findings begin to describe the issues faculty should consider in making testing more equitable for ESL students they teach and test.

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